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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/705,316	11/03/2000	David R. Battiste	33938US	7718

7590 06/13/2006

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EXAMINER
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DANG, THUAN D

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/705,316  
Filing Date: November 03, 2000  
Appellant(s): BATTISTE, DAVID R.

**MAILED**  
JUN 13 2006  
**GROUP 1700**

\_\_\_\_\_  
John M. Radiden  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 4/21/2006 appealing from the Office action mailed 12/21/2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

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**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,689,028	LASHIER et al.	11-1997
5,638,172	ALSMEYER et al.	6-1997
5,750,817	TANAKA et al.	5-1998

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-5, 8-11, 30-33, 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lashier et al (5,689,028) in view of Alsmeyer et al (5,638,172).

Lashier discloses a process of trimerization of ethylene to produce hexene in the presence of a catalyst and optionally added hydrogen (the abstract; col. 1, lines 55-62; col. 5, lines 25-27).

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Lashier et al discloses that the conversion, selectivity and the produced polymer polymerization process must be monitored (col. 9, lines 24-28).

Lashier does not disclose using Raman spectrometry equipment to monitor these parameters of the process (see entire patent for details). However, Alsmeyer discloses that chemical processes such as polymerization can be monitored in-situ by Raman spectrometry (the abstract; col. 1, lines 44-60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Lashier process by using the Raman spectrometry to measuring reactants and/or product of the Lasher trimerization of ethylene to decide the conversion, selectivity, and the amount of polymer of the process since Alsmeyer discloses that the Raman spectrometry has a lots of advantages for monitoring chemical processes (col. 1, lines 22-27; col. 2, lines 47-51; col. 3, lines 15-30 and 59-67).

All of the conversion, selectivity and the amount of polymer must be decided by measured amounts of components in the reaction. Once, measured parameters are not desired ones, one having ordinary skill in the art would adjust the process such as by changing the input and the output of the reactants, the catalyst and/or polymer product to/from the reactor.

The limitation of claim 5 can be found on column 7, lines 27-31.

Alsmeyer does not discloses the resolution of the Raman equipment. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Lashier process having been modified by the Alsmeyer teaching by using appropriate wave lengths provided that wave lengths can be used to monitor the process.

The limitation of claims 18 and 19 can be found on column 14, lines 17-20.

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Clearly, the cited references are totally silent as to the features which applicants want to exclude from the claims process (see the entire patent for details).

Claims 12 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lashier et al (5,689,028) in view of Alsmeyer et al (5,638,172) further in view of Tanaka et al (5,750,817).

Lashier discloses a process as discussed above.

Lashier does not disclose the process is performed in more than one reactor.

However, Tanaka operates an oligomerization of olefins such as ethylene in a series of reactors (col. 11, line 21 thru col. 12, line 47).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Pinole process by operating the process in a series of reactors as disclosed by Tanaka since it has been established that the transposition of process steps or the splitting of one step into two, where the processes are substantially identical or equivalent in terms of function, manner and result was held to be not patentably distinguish the processes. *Ex Parte Rubin* 128 159 (PO BdPatApp 195).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Pinole process having been modified by Tanaka's teachings by monitoring the concentration of the effluent of each reactor and adjusting the process by appropriate parameter such as providing monomer to the effluent of the preceding reactors.

**(10) Response to Argument**

The argument that the feature using a low-resolution Raman spectrometry equipment for monitoring is missing from the combination of the prior art is not persuasive since as discussed in the above rejection, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Lashier process having been modified by the Alsmeyer teaching by using appropriate wave lengths provided that wave lengths can be used to monitor the process according to the nature of components (reactants and products) in the reaction. Applicants never argue that the use of the appropriate wave lengths or a low resolution Raman spectrometry equipment for the combined process is impossible. Further, applicants also do not show that using low resolution Raman spectrometry is critical for the productivity of oligomers.

The argument that the peaks of the trimerization to measure to determine conversion are ethylene and 1-hexene at 1620 cm<sup>-1</sup> and 1640 cm<sup>-1</sup> respectively, therefore, since the peaks are so close, one having ordinary skill in the art, without the benefit of the Appellant's disclosure, would dismiss the use of low resolution Raman spectrometry is not persuasive since the peaks of the trimerization to measure to determine conversion are ethylene and 1-hexene at 1620 cm<sup>-1</sup> and 1640 cm<sup>-1</sup> respectively are constants which are not invented by applicants but the numbers are the characteristics of the ethylene and 1-hexene. These numbers are not variables but constants. Therefore, the components (reactants and products) of these reactions and their peaks must be recognized and known, so that appropriate equipment can be selected to able to measure these peaks.

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The argument that the Alsmeyer polymerization reactants and product polymer polyester have dissimilar wavelengths and therefore are relatively straightforward to differentiate and measure, especially with the high resolution Raman spectrometer apparently taught by Alsmeyer is not persuasive since (1) Alsmeyer discloses generally that chemical processes, not limited to any specific reaction, can be monitored by Raman spectrometry equipments (the abstract; col. 1, lines 23-60); (2) Alsmeyer discloses that polyester forming process is only a typical polymerization process which can be monitored by a Raman equipment (col. 2, lines 47-54; col. 4, lines 16-21); (3) nowhere in Alsmeyer discloses that the Raman equipment is a high resolution Raman spectrometer as argued by applicants.

The argument that considering the nearness of the "appropriate wavelengths" for the ethylene to 1-hexene trimerization, the skilled artisan would not select low-resolution Raman spectrometer to measure ethylene and 1-hexene is not persuasive since each of reactants or products of reactions are expected to have different wavelengths. According to the inherent properties of each reaction, one having ordinary skill in the art would select appropriate equipment for the measurement.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

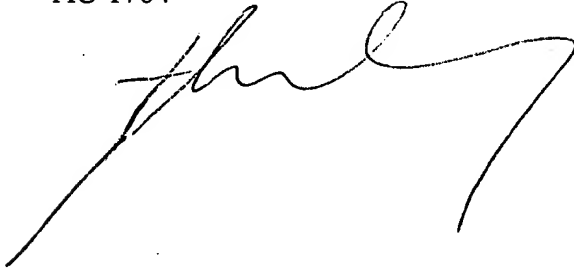
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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Thuan D. Dang

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A large, stylized handwritten signature in black ink, likely belonging to Thuan D. Dang.

Conferees:

Glenn Caldarola

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Glenn Caldarola  
Supervisory Patent Examiner  
Technology Center 1700

Nadine Norton

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